

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JUHANI ISAKSSON and HARRY OLLILA

Appeal No. 94-1640
Application 07/768,729¹

ON BRIEF

MAILED

JUN 25 1996

**PAT. & T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES**

Before MEROS, LYDDANE and FRANKFORT, Administrative Patent Judges.

MEROS, Administrative Patent Judge.

DECISION ON APPEAL

This appeal is from the examiner's final rejection of claims 6-21, all of the claims pending in the application.

The claims are directed to a method of recovering heat from hot solids discharged from the combustion chamber of a fluidized bed reactor (claims 6-17) and to a fluidized bed

¹ Application for patent filed October 11, 1991.

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reactor assembly for practicing the claimed method (claims 18-21).

Claims 6 and 18 are illustrative of the claimed subject matter and read as follows:

6. A method for recovering heat from hot solids discharged from the combustion chamber of a fluidized bed reactor, comprising the steps of:

(a) feeding solid material, including fuel, and fluidizing gas into the combustion chamber to establish a fluidized bed which produces hot gases and solid particles;

(b) removing the hot solid particles from the combustion chamber;

(c) passing the hot solid particles into indirect heat exchange relationship with water, to thereby produce hot water;

(d) mixing the hot water with the solid material to simultaneously heat and moisten the solid material; and

(e) using the heated and moistened solid material from step (d) for at least a part of the solid material in step (a).

18. A fluidized bed reactor assembly comprising:

a fluidized bed reactor having a combustion chamber, an ash discharge from the combustion chamber, and a gas discharge from the combustion chamber, fuel being combusted in the combustion chamber to produce hot gases and solid particles;

means for withdrawing hot solid particles from the combustion chamber;

a heat exchange vessel operatively connected to said means for withdrawing hot solid particles from the combustion chamber;

a heat exchange conduit passing through said heat exchange vessel for transporting water through said heat exchange vessel;

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a cooled particles discharge from said heat exchange vessel;

a mixing chamber;

means for feeding solid material into said mixing chamber;

means for connecting said heat exchange conduit to said mixing chamber, for introducing hot water from said heat exchange conduit into said mixing chamber; and

means for feeding solid material mixed with said water from said mixing chamber into the combustion chamber.

The examiner relies on the following references:

Forney et al. (Forney)	4,244,706	Jan. 13, 1981
Arisaki	4,461,629	Jul. 24, 1984

Claims 6-21 stand rejected under 35 U.S.C. §103, claims 6-8, 10-13 and 15-21 as being unpatentable over Forney and claims 9 and 14 as being unpatentable over Forney in view of Arisaki.

After consideration of the complete record before us, including the respective positions of the examiner and the appellants, it is our decision to reverse the examiner's rejections.

Forney discloses a process for gasifying a solid carbonaceous material (e.g., coal) by reaction with steam and oxygen in a fluidized bed reactor wherein condensate water from the product gas is recycled to form a slurry with the carbonaceous feed material. As can be seen from the drawing of Forney, the mixture of gases and char is withdrawn from gasifier 35 and passed to filter bed vessel 41 wherein the gas portion of

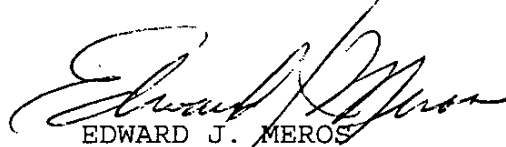
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constitute a water disposal problem, and also, importantly, for recycling various catalytic materials, such as boron, silicon, alkali metals and alkaline earth metals, which materials catalyze the gasification reaction. Note particularly, column 4, lines 39-47 and column 5, lines 6-68 of Forney. Thus, not only does the examiner's proposed modification of Forney's process lack suggestion and motivation in the teachings of Forney, it also makes no sense since it would manifestly destroy essential goals and requirements of Forney's process. In other words, "indirect heat exchange" proposed by the examiner would not generate the steam required for recycling the organic and catalytic materials in said process. Therefore, it is clear that the examiner has failed to establish prima facie obviousness of the claimed subject matter as a whole within the meaning of 35 U.S.C. §103 based on Forney alone or combined with Arisaki. Cf. In re Freed, 425 F.2d 785, 787, 165 USPQ 570, 571 (CCPA 1970); In re Laskowski, 871 F.2d 115, 117, 10 USPQ2d 1397, 1399

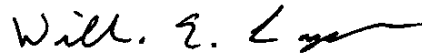
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(Fed. Cir. 1989); In re Fritch, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). Accordingly, we are constrained to reverse the examiner's rejections.

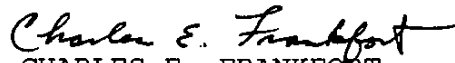
REVERSED



EDWARD J. MEROS)
Administrative Patent Judge)



WILLIAM E. LYDDANE)
Administrative Patent Judge)



CHARLES E. FRANKFORT)
Administrative Patent Judge)

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